

REMARKS

Claims 13-19, 23 and 25 would be allowed if rewritten in independent form in accordance with the present office action. However, claims 1, 4-6 and 20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Madour et al. (U.S. Publication Number 2001/0050907, hereinafter "Madour"), claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Madour in view of Harper et al. (U.S. Publication Number 2003/0021252, hereinafter "Harper"), claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Madour in view of Perras (U.S. Publication Number 2002/0141369), claims 7, 8, 11 and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Madour in view of Madour (U.S. Publication Number 2003/0053431, hereinafter "Madour '431"), claim 21 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Madour in view of Jean (U.S. Publication Number 2004/0105400), claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Madour in view of Athalye (U.S. Publication Number 2004/0162031), claim 24 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Madour in view of Athalye, claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Madour in view of Purnadi (U.S. Publication Number 2003/0219024), and claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Madour in view of Purnadi and further in view of Julka et al (U.S. Publication Number 2005/0226154, hereinafter "Julka"). Respectfully disagreeing with these rejections, reconsideration is requested by the applicant.

Independent claim 1 recites (emphasis added) "determining, by the AN, that signaling between the MS and the target PDSN related to the inter-PDSN handoff has been completed." Independent claim 20 recites (emphasis added) "An Access Network (AN)... comprising... a base station (BS)... adapted to determine that signaling between the MS and the target PDSN related to the inter-PDSN handoff has been completed." The Examiner refers to Madour [0006, 0016, 0017, 0040, 0064 and 0065] as teaching the language of claims 1 and 20. Madour [0006, 0016, 0017, 0040, 0064

and 0065] reads (emphasis added):

[0006]In the case of the authentication failure, an authentication center (AC) may be co-located with the MSC or with a Home Location Register (HLR). **When an MS attempts to use a packet-data service, the MSC and the Base Station Controller (BSC) serving the MS take steps to allocate a radio traffic channel.** In parallel, the BSC begins setting up a data path between the MS and a Packet Data Service Node (PDSN). In many cases, the path between the MS and the PDSN may be set up faster than the authentication is reported to the MSC. If an authentication failure is reported to the MSC after the data path is set up between the MS and the PDSN, the MSC deallocates the radio resources that were allocated to the MS, but presently does not do anything to release the data path.

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[0016]In yet another aspect, the present invention is a method of optimizing the use of packet-resources by **eliminating a hanging packet- data connection** when an authentication failure is received for an MS **after the MS performs an intra-BSC/intra-PCF/inter-PDSN dormant handoff.** The method includes the steps of sending an indication of the authentication failure from the MSC to the BSC; sending from the BSC, an update message to the PCF that includes an identity of the MS and an indication that authentication failed for a dormant packet-data session; sending an indication from the PCF to the PDSN indicating that the lifetime of the packet-data connection is zero (0); and releasing the packet-data connection by the PDSN in response to the indication from the PCF.

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[0017]In yet another aspect, the present invention is an MSC in a wireless access network that includes a first signaling means for **receiving a message from a BSC indicating that an MS has powered down during a packet-data session;** means for **determining in the MSC that the packet-data session is dormant;** and a second signaling means for sending an instruction to the BSC to release network resources associated with the packet-data session.

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[0040]If it is determined at step 37that the packet-data session is dormant, the method moves to step 41where the MSC updates the location of the MS in the MS's HLR, and then instructs the BSC to release the traffic and control channels that are allocated to the MS at 42. At step 43, the MSC sends a Location Update Accept message to the BSC and includes an instruction to release the resources associated with the PPP session. At 44, the BSC sends an A9-Update-A8message to the PCF 16with an indication of the dormant power-down by the MS. In response, the PCF tears down the associated resources, and the PDSN releases the PPP connection at step 45.

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[0064]FIG. 9is a flow chart illustrating the steps of the method **when there is an authentication failure following an inter-PDSN dormant handoff.** At step 125, the MS performs an inter-PDSN dormant handoff. At 126, the packet-data session is **reactivated due to the sending of agent advertisements and PPP re-negotiation.** The reactivation includes the establishment of an SCCP connection 14between the MSC 11and the BSC 12. At 127, the MSC sends a Clear command to the BSC using the SCCP

connection. The Clear command includes a cause value "authentication failure". The BSC reacts by clearing the traffic channel at 128, and at 129, sending an A9-Release-A8message to the PCF 16. The A9-Release-A8message includes the cause value "authentication failure". At 130, the PCF reacts by clearing the A8connection 17and initiating the closure of the A10connection 19. This action triggers the PDSN 18to release the PPP connection at step 131.

[0065]Note that the PDSN 18 has no way to find out if an MS undergoing dormant handoff came from another PDSN. Therefore the target PDSN always sends agent advertisements prompting the establishment of a traffic channel by the BSC 12. An SCCP connection 14 thus exists between the BSC 12 and the MSC 11 for that MS, and the MSC can send the Clear command message on the SCCP connection should the authentication result in a failure. Future versions of CDMA 2000, however, propose that the PDSN will only send agent advertisements when the PDSN deems it necessary. In this case, a intra-PDSN dormant handoff will not be accompanied by a reactivation of the packet session to an active state. The solution illustrated in FIGS. 6 and 7then applies.

Thus, the applicant submits that Madour, as cited by the Examiner, does not teach determining, by the AN, that signaling between the MS and the target PDSN related to the inter-PDSN handoff has been completed. Moreover, the applicant submits that Madour, as cited by the Examiner, does not teach that the AN releases the **same** TCH established to support the inter-PDSN handoff in response to making this determination.

In particular, the Examiner cites Madour [0017] as teaching this determination that signaling between the MS and the target PDSN related to the inter-PDSN handoff has been completed. However, Madour [0017] merely describes an MS powering down during a packet-data session and determining that the packet-data session is dormant. It is unclear to the applicant how the MS powering down or the determination that the packet-data session is dormant teaches or suggests that signaling **between** an **MS** and a target **PDSN** related to an **inter-PDSN handoff** has completed.

Claim 7 recites (emphasis added) "wherein determining that the signaling between the MS and the target PDSN has been completed comprises receiving, **by the AN from the target PDSN, a request to transition** the packet data session from an active state **to a dormant state.**" The Examiner refers to Madour '431 [0035] as teaching the language of claim 7. Madour '431 [0035] reads (emphasis added):

[0035] Since the terminal 205 has to move to the target BS 222 the terminal 205 needs to initiate a connection with the target BS 222. For doing so, the terminal 205 uses the

GHDM/UHDM message 320 for sending to the target BS 222 a Handoff Completion message 332. The **target BS 222** further replies to the Handoff Completion message 332 by **sending a BS Ack Order 336**. **After receiving the BS Ack Order 336, the terminal 205 may go dormant** (dormant packet data session). Upon reception of the Handoff Completion message from the terminal 205, the target BS 222 initiates a signaling 340 that involves the MSC 235, and the PDSN 220. During the signaling 340, the **target BS 222** uses the PANID information and **for establishing an A10/A11 connection with the PDSN 220**. The PDSN 220 further **disconnects any previous A10/A11 connection**. In the present case, the PDSN 220 was connected to the source BS 208.

Thus, the applicant submits that Madour '431, as cited by the Examiner, does not teach receiving, **by the AN from the target PDSN, a request to transition** the packet data session from an active state **to a dormant state**. Instead, the applicant submits that Madour '431, as cited by the Examiner, describes a **terminal** receiving a **BS Ack Order** from a **BS**, after which the terminal may go dormant. In other words, a request being received by an AN from a PDSN to transition to a dormant state is not being described in Madour '431 [0035].

Claim 21 recites (emphasis added) "wherein the BS, as adapted to determine that the signaling between the MS and the target PDSN has been completed, is adapted to receive, **from the target PDSN via the PCF**, an indication that the signaling between the MS and the target PDSN **related to the inter-PDSN handoff** has been completed." The Examiner refers to Jean [0030, 0034] as teaching the language of claim 21. Jean [0030, 0034] reads (emphasis added):

[0030] Further, preferably the provision of the dormant function comprises: analyzing at the base station controller the dormant support information within the certain message received from the mobile station; if it is determined that the mobile station supports the dormant function, driving at the base station controller a dormant timer; requesting at the base station controller for interface registration in order to transmit signaling information to the PDSN, receiving a response thereto and then notifying the mobile switching center of completion of the resource assignment; establishing the PPP connection between the mobile station and the PDSN and conducting the mobile IP registration procedure, thereby transmitting and receiving packet data in the active/connected state; and **determining at the base station controller whether the dormant timer is in operation and if there has been no packet data transmission within the specified time of the dormant timer, making transition to the dormant state from the active/connected state**.

[0034] Further, preferably the provision of the dormant function comprises: analyzing at

the base station controller the dormant support information included in the service connect complete message received from the mobile station; if it is determined that the mobile station supports the dormant function, driving the dormant timer at the base station controller; sending at the base station controller an interface registration request to the PDSN for transmission of signaling information and then receiving a response thereto and notifying the mobile switching center of the resource assignment completion; establishing the PPP connection between the mobile station and the PDSN and conducting the mobile IP registration procedure, thus transmitting and receiving packet data in the active/connected state; and **determining at the base station controller whether the dormant timer is in operation and if no packet data has been transmitted within the specified value of the dormant timer, making a transition from the active/connected state to the dormant state.**

Thus, the applicant submits that Jean, as cited by the Examiner, does not teach a BS adapted to receive, **from the target PDSN via the PCF**, an indication that the signaling between the MS and the target PDSN **related to the inter-PDSN handoff** has been completed. Instead, the applicant submits that Jean, as cited by the Examiner, describes a base station controller monitoring packet data transmissions and using a **dormant timer** to determine when a transition to a dormant state should be made. In other words, an indication being received by a BS from a PDSN regarding signaling related to an inter-PDSN handoff is not being described in Jean.

Since none of the references cited, either independently or in combination, teach all of the limitations of independent claims 1 or 20, or therefore, all the limitations of their respective dependent claims, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown. Furthermore, no amendment made was for the purpose of narrowing the scope of any claim, unless it has been argued herein that such amendment was made to distinguish over a particular reference or combination of references. No remaining grounds for rejection or objection being given, the claims in their present form are asserted to be patentable over the prior art of record and in condition for allowance. Therefore, allowance and issuance of this case is earnestly solicited.

The Examiner is invited to contact the undersigned, if such communication would advance the prosecution of the present application. Lastly, please charge any additional fees (including extension of time fees) or credit overpayment to Deposit Account No. **502117 -- Motorola, Inc.**

Respectfully submitted,
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